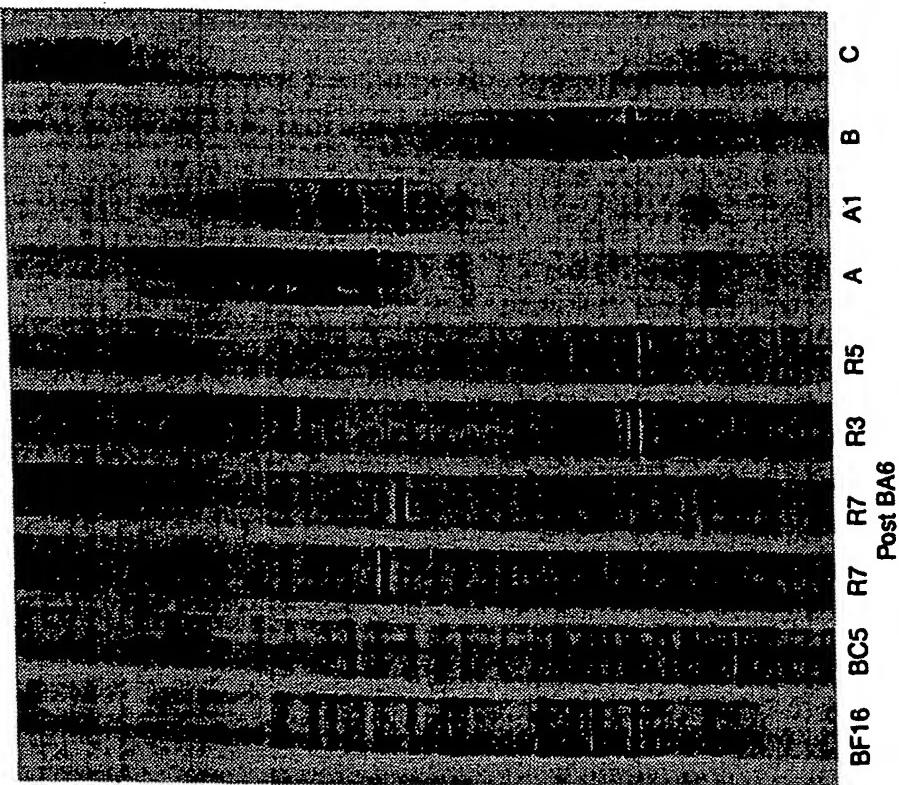


**Figure 1.** Phylogenetic relationship of the three bacterial strains and one substrain inferred from comparative analysis of 16S rDNA sequences. The tree is based on neighbour-joining distance analysis of sequences containing a minimum of 1430 nucleotides.



**FIG. 2.** Denaturing gradient gel electrophoresis (DGGE) of biomasses from selected cultures and ammonia-oxidizing bacteria described herein.

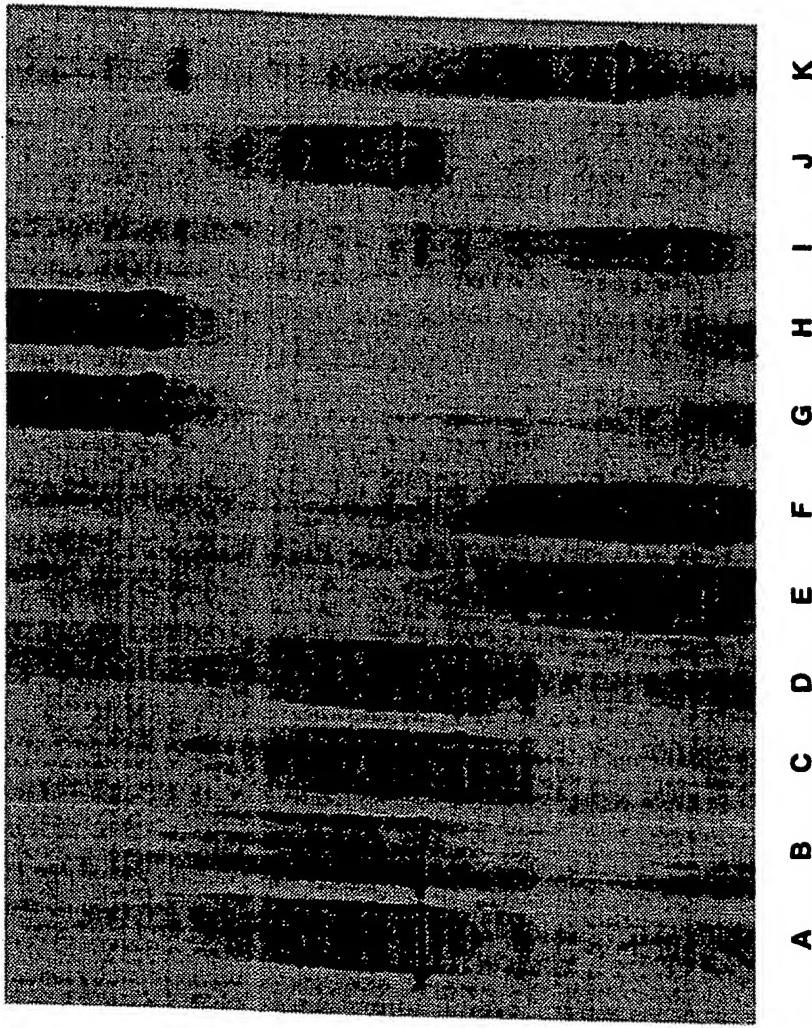


Fig. 3. Denaturing gradient gel electrophoresis (DGGE) demonstrating the uniqueness of the bacterial strains reported herein. There are two replicates of each bacteria type: Type A (lanes A and B), Type A1 (lanes C and D), Type B (lanes E and F) and Type C (lanes G and H). Also shown are results for pure cultures of *Nitrosospira multiformis* (lane I), *Nitrosomonas cryotolerans* (lane J), and *Nitrosomonas europea* (lane K).

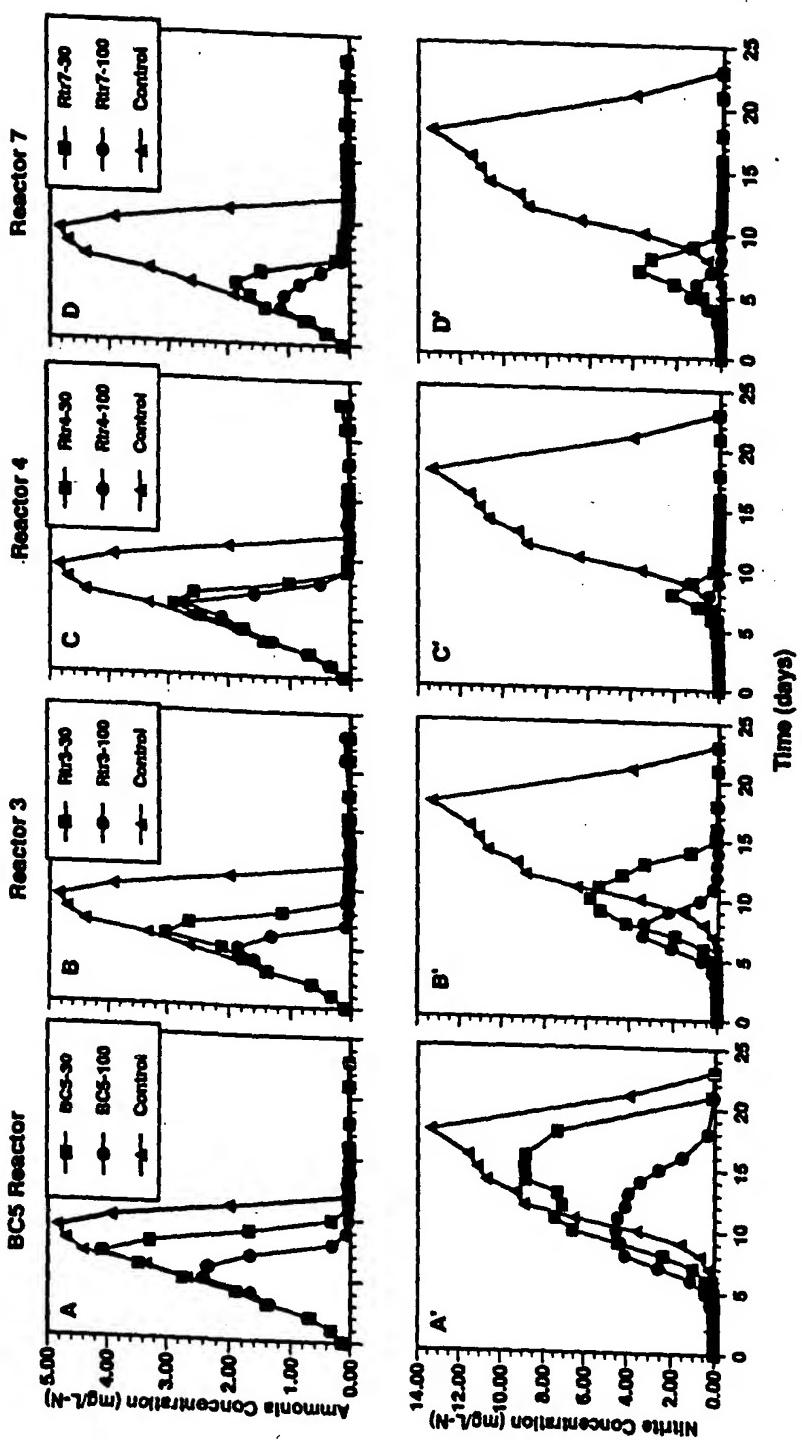


Figure 4. Mean ammonia and nitrite trends for the Bacterial Additives VI test (N-3). For each bacterial mixture data are presented for aquaria dosed with 30 mg (■) and 100 mg (●) of nitrification which did not receive a mixture. BC5 ammonia (A) and nitrite (A'); Ri3 ammonia (B) and nitrite (B'); Ri4 ammonia (C) and nitrite (C'); and Ri7 ammonia (D) and nitrite (D').

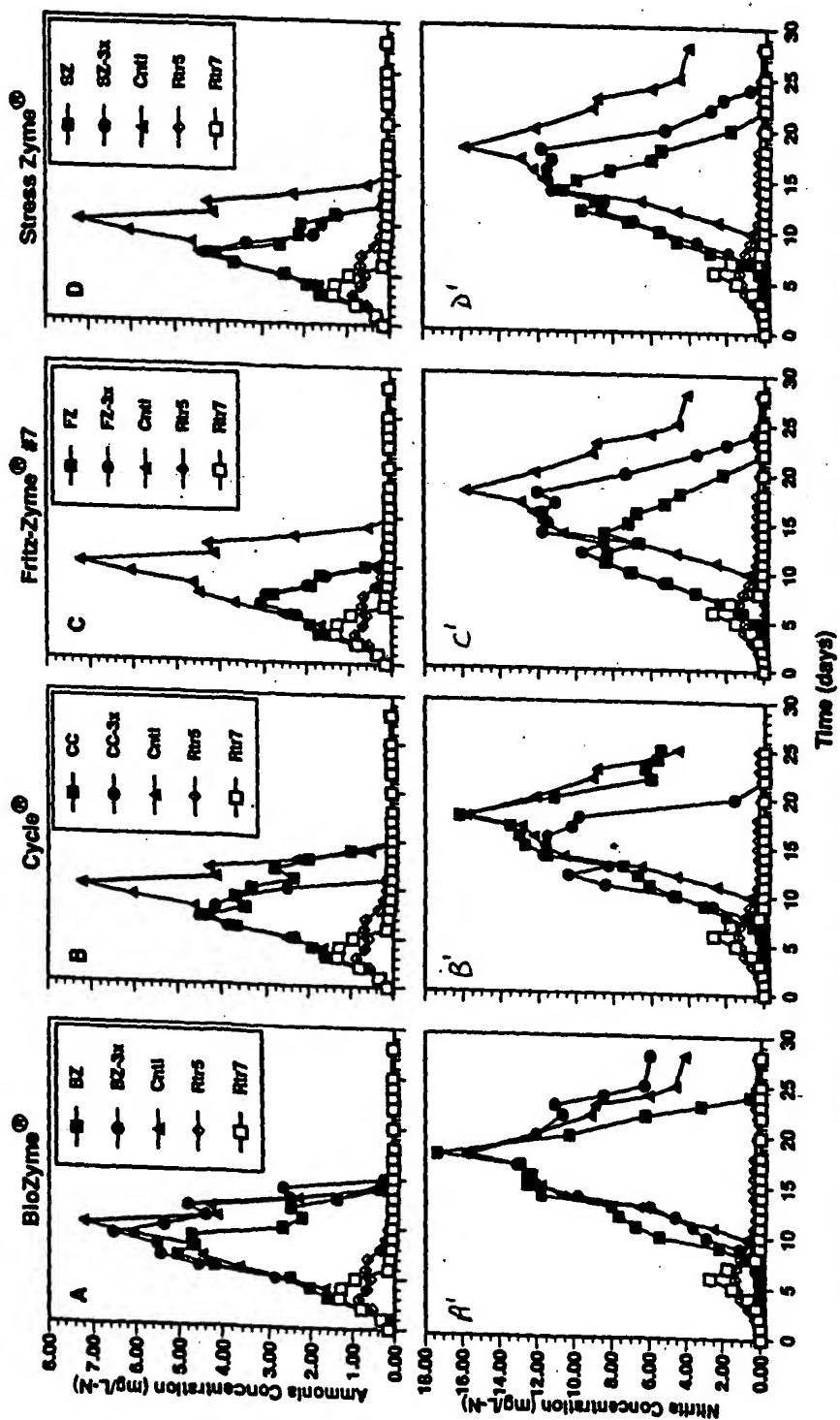
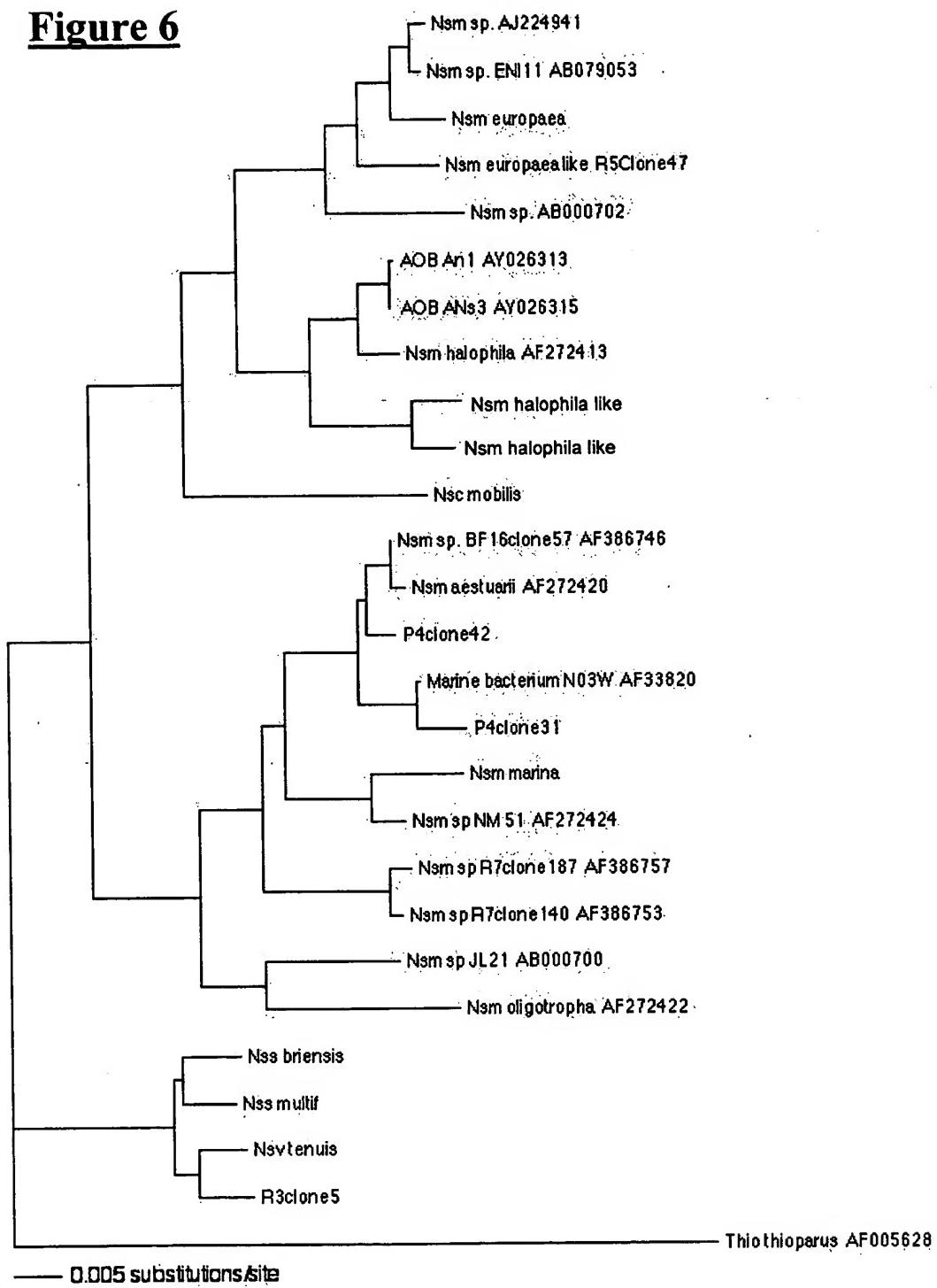
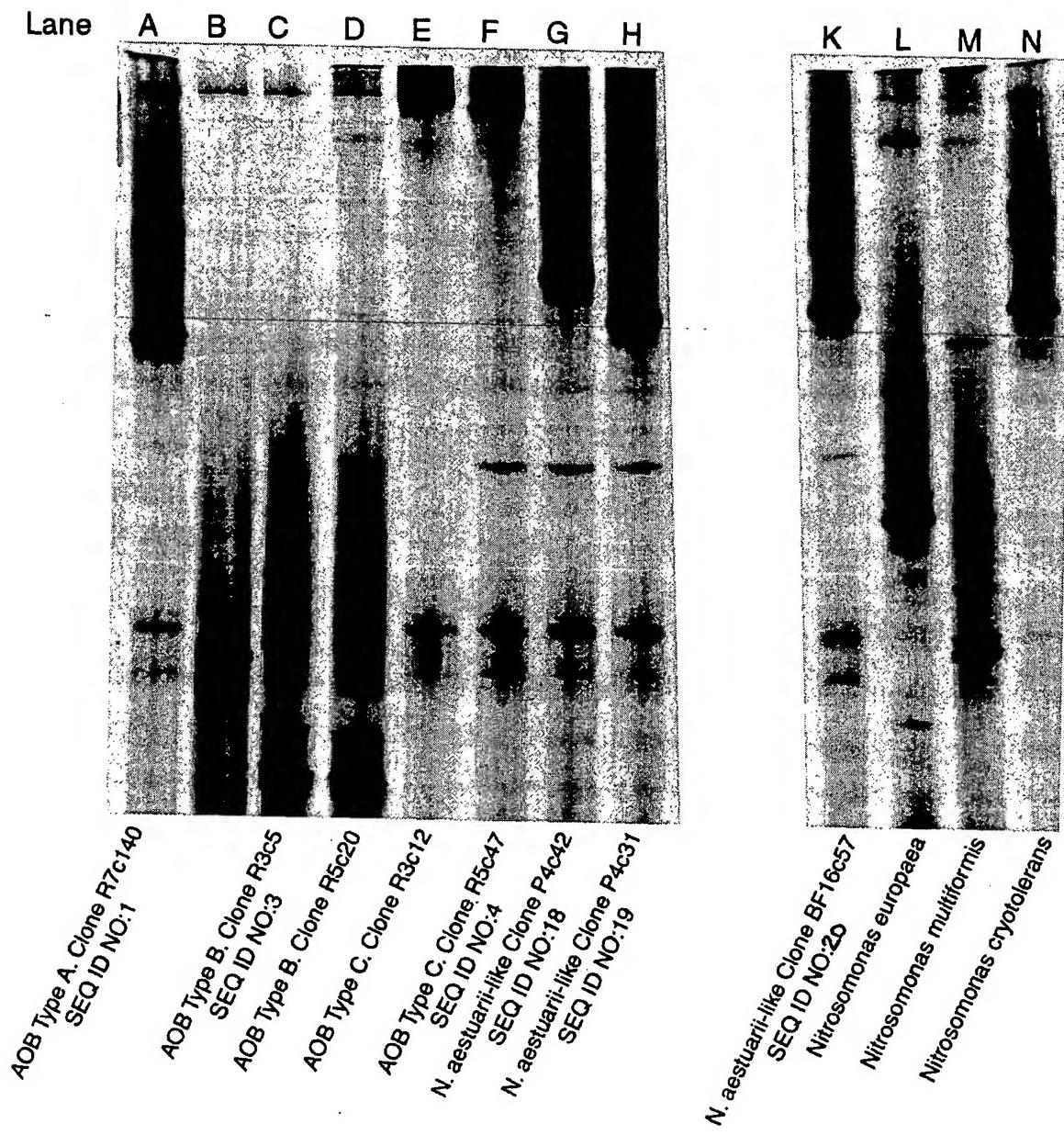


Figure 5. Mean ammonia and nitrite trends for the Bacterial Additives VII test (N-3). Four commercially available bacterial mixtures: Biozyme® (A, A') [BZ, Aquarium Products], Cycle® (B, B') [CC, Roff C. Hagen Corp.], Fritz-Zyme#7 (C, C') [FZ, FMTZ Pet Products] and Stress Zyme® (D, D') [SZ, Aquarium Pharmaceuticals] were compared to two bacterial mixtures (Rof,  $\diamond$  and Rof7,  $\square$ ) containing the bacterial strains incorporated herein. Each commercially available mixture was used per the manufacturer's directions (■) and at 3x the prescribed dosage (●) and also compared to control aquaria (▲) which did not receive a bacterial mixture.

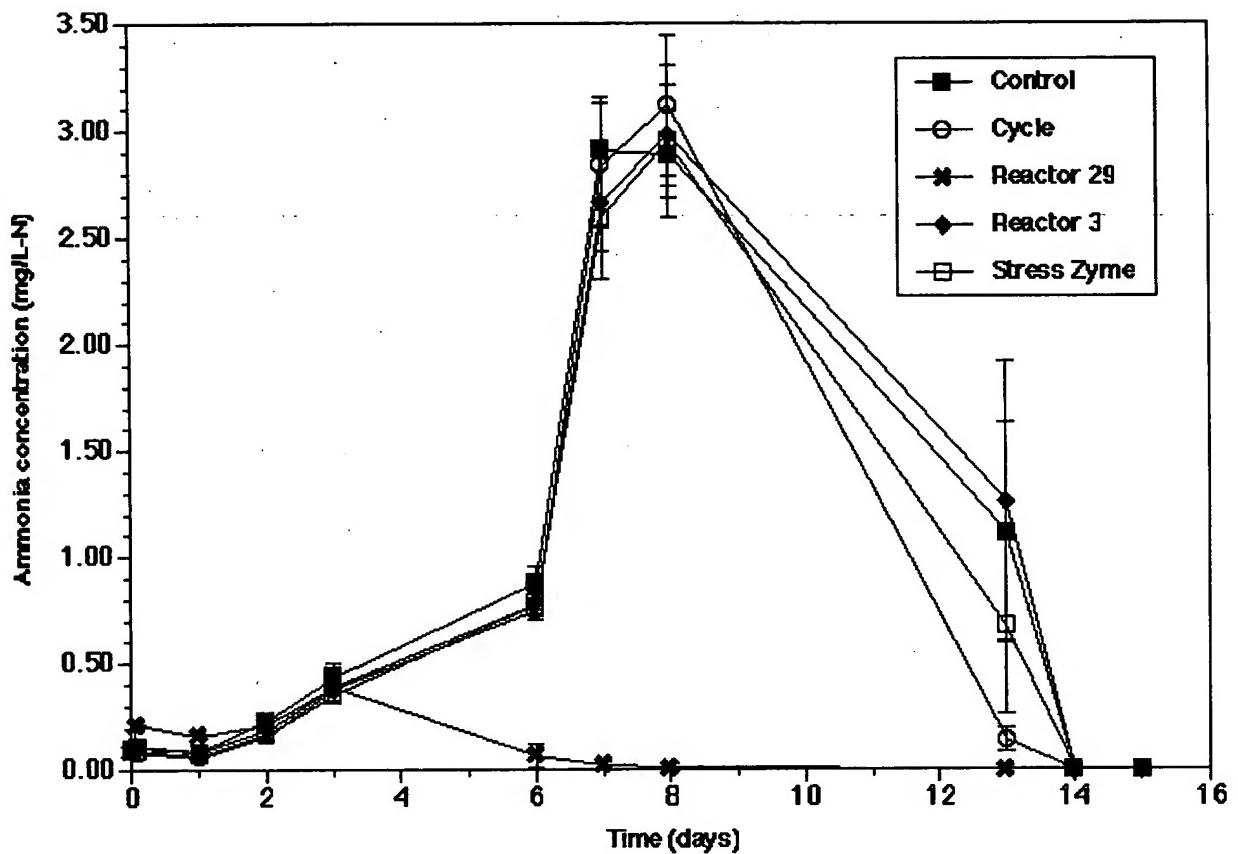
**Figure 6**



**Figure 7**

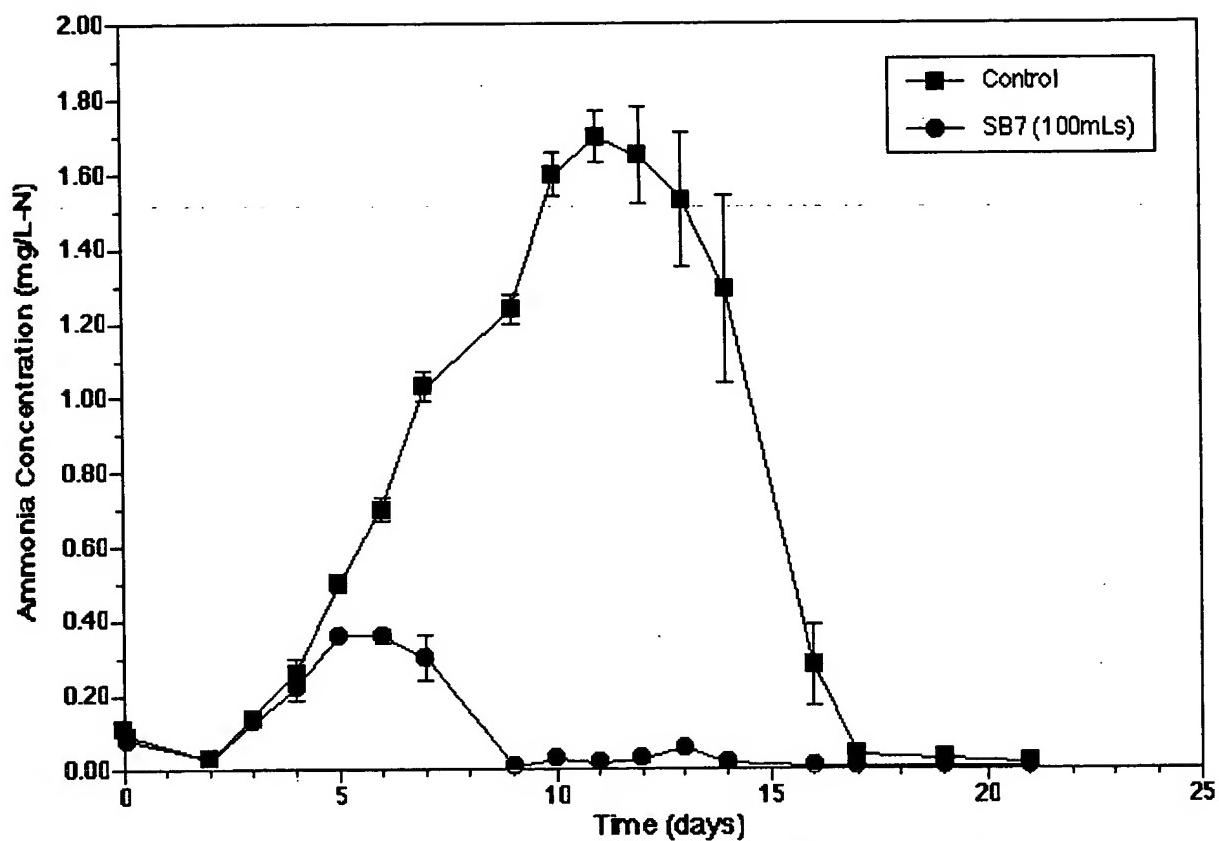


**Figure 8**



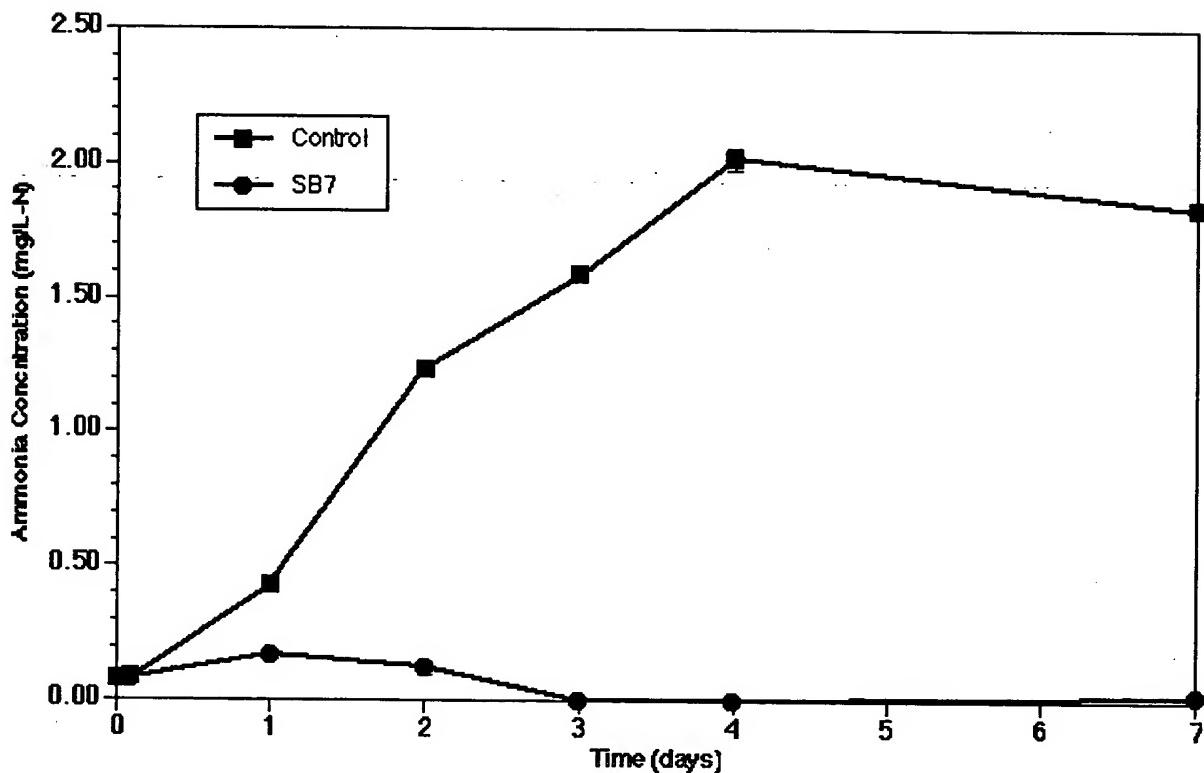
Mean ammonia trends (N=3) for aquaria dosed with AOB bacteria in accordance with an embodiment of the present invention or commercially available nitrifying bacteria mixtures.

**Figure 9**



Mean ammonia trends (N=4) for saltwater aquaria dosed with saltwater AOB bacteria in accordance with an embodiment of the present invention and control aquaria that were not dosed.

**Figure 10**



Mean ammonia trends (N=4) for aquaria dosed with saltwater bacteria in accordance with an embodiment of the present invention and control aquaria that were not dosed.